

Community Rating System (CRS) - Activity 510
2019 Progress Report

Date this Report was Prepared: *June 9, 2020*

Name of Community: *City of Syracuse, Onondaga County, New York
Community ID 360595*

Name of Plan: **2019 ONONDAGA COUNTY MULTI-JURISDICTIONAL HAZARD
MITIGATION PLAN UPDATE**

Date of Adoption of Plan by City of Syracuse: *August 19, 2019*

5 Year CRS Expiration Date: October 1, 2020

1. How can a copy of the original plan or area analysis report be obtained:

*Syracuse-Onondaga County Planning Agency (SOCPA) website:
<http://www.ongov.net/planning/haz.html>*

2. Describe how this evaluation report was prepared and how it was submitted to the governing body, released to the media, and made available to the public:

To prepare this report, the City of Syracuse reviewed:

- *City floodplain management activities during the past year.*
- *The Syracuse floodplain and hazard mitigation initiatives outlined in the 2013 MJHMP and the newly-adopted 2019 MJHMP.*

The 2018 Progress Report was provided in March 2019 to the Syracuse Common Council (governing body) and to the Mayor's Office. This report was also submitted to the NYSDEC Floodplain Bureau (Albany Office) and CAV coordinator concurrent with this submittal.

This 2019 Progress Report will be submitted to the Mayor's Office and Syracuse Common Council, and posted on the Engineering Dept. webpage.

3. Provide a review of each recommendation or action item in the action plan or area analysis report, including a statement on how much was accomplished during the previous year:

The newly adopted 2019 MJHMP has a set of hazard mitigation initiatives which were developed by the City of Syracuse in coordination with the MJHMP development team. The 2019 MJHMP reassessed the initiatives from the 2013 MJHMP and also developed new initiatives. Table 1 attached summarizes the progress on the 2019 MJHMP initiatives made since adoption of the plan in August 2019.

4. Discuss why any objectives were not reached or why implementation is behind schedule:

Please see attached Table 1.

5. 2019 Goals: What are the recommendations for new projects or revised recommendations?

- a. In 2019, send a letter to property owners within the floodplain alerting them to recent New York State legislation that provides for a tax credit to low-income households in the Special Flood Hazard Area which pay flood insurance.

Action completed in January 2019.

- b. Participate in the Multi-Jurisdictional Hazard Mitigation Plan update and committee meetings.

The City participated in the 2019 draft MJHMP plan development through attendance at steering committee and workshop meetings. The City redrafted its section in the MJHMP, reassessed previous hazard mitigation initiatives and also developed new hazard mitigation initiatives. City adopted the 2019 MJHMP update in August 2019.

- c. Continue study of the Tully Mudboils to reduce sediment loading into Onondaga Creek.

The City attended bi-weekly Mudboil Task Force meetings and assisted in review and development of the Mudboil Alternative Analysis Project and the Mudboils Surface/Geophysical Testing program. The Mudboils Alternative Analysis was completed in 2019. The Mudboils Directional drilling project (Onondaga County lead) was initiated in 2018 and serves as a temporary mitigation measure. This project continued in 2019.

- d. Onondaga Creek flood mitigation

The City continued to work with NYSDEC and the Onondaga Environmental Institute (OEI) to assess strategies for flood risk mitigation within Syracuse. In December 2019, the City applied for a FEMA Hazard Mitigation Program Pre-Disaster Mitigation Grant to fund a hydraulic study of potential flood storage Onondaga Creek Arsenal Park.

- e. *The City is undergoing an overall revamp of its website. As part of this rework, the Engineering Dept. will update flood risk and insurance information and links on its webpage.*

**Table 1 - 2019 CRS Progress Report
Hazard Mitigation Initiative Progress**

Project Number	Project Name	Hazard(s) to be Mitigated	Description of Problem and Solution	Estimated Benefits	Estimated Timeline	Lead Agency	Estimated Costs	2019 Progress
C. of Syracuse-1	Skaneateles Lake Harmful Algal Blooms	Harmful Algal Bloom	<p>Problem: Exposure to cyanobacteria and the toxins they release is through ingestion of drinking water contaminated with cyanotoxins and through direct contact, inhalation and/or ingestion during recreational activities. Significant harmful algae blooms were identified in Skaneateles Lake in 2017, followed by small localized blooms in 2018 resulting in the detection of microcystin (a form of cyanotoxin) in raw and treated water samples collected from Syracuse Water Department Lake Intakes. Exposure to cyanobacterial blooms and their cyanotoxins can result in a wide range of symptoms in humans, including fever, headaches, muscle and joint pain, blisters, stomach cramps, diarrhea, vomiting, mouth ulcers, and allergic reactions.</p> <p>Solution: Extending Lake water intakes into deeper water-The city's shallowest water intake is located at a depth of 20 ft. By extending the Intake (a 2004 Engineering Study proposed a 3,400 ft. extension), the water supply will be drawn from a depth of approximately 60 ft. The extended length will allow for a greater margin of safety, affording chlorine gas injected at the Water Intake additional contact time to inactivate microcystin.</p>	Toxins removed from drinking water source; avoid building filtration plant	5 years	City of Syracuse Water Department	\$12 million	<p>An MJHMP Action Worksheet was created for this initiative and it has the City's highest priority.</p> <p>The City applied for a FEMA HMP Pre-Disaster Mitigation grant for this initiative in December 2019 and is awaiting review. Award decision in summer 2020.</p>
C. of Syracuse-2	Syracuse Flash Flooding Mitigation Sedgewick/Eastwood	Flood, Severe Storm	<p>Problem: In Syracuse's Eastwood and Sedgewick neighborhoods, short duration intense rainstorms overwhelm the storm sewer's capacity to capture and convey stormwater resulting in flooded areas and sewer backups. The localized flooding has caused traffic accidents, detours and delays. Localized erosion and road undermining has resulted necessitating road repairs.</p> <p>Solution: Hybrid - Increase Storm Sewer Capacity and Reduce Stormwater Runoff - In select areas, Increase the number of catch basins to capture a higher percentage of area runoff. Increase the size of local and mainline sewers to increase conveyance to avoid surcharges. Install storm surge manhole covers to prevent unknown underwater hazards. Increase public outreach of flash flood risks. In addition to increasing capacity, develop green infrastructure/retention areas to reduce stormwater runoff to the local sewer systems.</p>	Reduce flash flooding and sewer discharges; reduce street and building damage; increase safety	5 years	City of Syracuse, Onondaga County WEP		<p>An MJHMP Action Worksheet was created for this initiative and it has medium priority.</p> <p>The first phase of an engineering study was initiated in 2019 to assess the causing of this localized flooding/sewer surcharges; public meeting was conducted in 2019. Engineering report is due in 2020.</p>
C. of Syracuse-3	City of Syracuse, Onondaga County WEP	Flood	<p>Problem: Flood risks and the size of the Special Flood Hazard Area have both increased for Onondaga Creek within Syracuse. FEMA issued new Flood Insurance Rate Maps in 2016 which increased the size of the SFHA by 175 acres and added almost 1,200 residential and commercial structures. The major part of this addition is within lower-income residential areas on the south side of Syracuse adjacent to Onondaga Creek, adding the financial burden of flood insurance. The last major flood causing evacuations along Onondaga Creek within Syracuse was recorded in 1974; however, it has been observed that approximately every one to two years, Onondaga Creek has overtopped its channel banks at locations within Syracuse at discharges of approximately only 50% of the FEMA 1%-Annual Chance Discharge and at approximately only 50% of the design capacity for the engineered channels within the city.</p> <p>Solution: Reduce Onondaga Creek Peak Discharges - Arsenal Park Flood Storage The Arsenal Park area along Onondaga Creek near Syracuse's southern boundary provides the largest single tract of land within Syracuse (approx. 15 acres) which could be used for flood storage with the goal of reducing Onondaga Creek peak discharges within Syracuse and removing structures and residents from the Special Flood Hazard Area. This Alternative would be three phased:.</p> <p>Phase 1 - Conduct a study to determine the amount that the Arsenal Park tract could reduce Onondaga Creek peak discharges and how many structures and residents would be removed from the SFHA. A Benefit/Cost analysis would be included. This alternative could include diversion/detention and infiltration into newly developed natural and wetland areas. The tract is currently privately-owned but initial discussions with the owner indicate sale is possible. The hydraulic study would be submitted to FEMA, USACE, and NYSDEC for review of the proposed concept. Sediment capture from upstream sources could also be considered as part of the design.</p> <p>Phase 2: Engineering Design of Arsenal Park Flood Risk Reduction project. An environmental assessment would be required.</p> <p>Phase 3: Construction of the Arsenal Park Flood Risk Reduction project and submission of new hydraulic study to FEMA for FIRM revisions.</p>	Reduce flood risks, reduce flood insurance costs; reduce damage from major flooding events	5 years	City of Syracuse Engineering Department.	Phase 1 (study): \$150K-400K Phase 2 (design): \$200K-\$600K Phase 3 (Construction): \$2-8 million	<p>An MJHMP Action Worksheet was created for this initiative and it has high priority.</p> <p>The City applied for a FEMA HMP Pre-Disaster Mitigation grant for THE Phase 1 hydraulic study of this initiative in December 2019 and is awaiting review. Award decision in summer 2020.</p>
C. of Syracuse-4 (old CSY-2)	Conduct and facilitate community and public education and outreach	All	<p>Problem: To reduce risk to citizens and property, increase awareness of local hazards and mitigation proposals and efforts. information meetings that summarize risks and mitigation measures.</p> <p>Solution: Complete and adopt the MJHMP; update the SOCPA and city websites re risk and hazard mitigation; provide press releases and information packets; conduct community</p>	Reduction in risk to people and property with increased awareness of hazards and potential mitigation actions.	Ongoing	Municipal officials and floodplain administrator supported by the County (through SOCPA and EM)	Ongoing efforts as part of Engineering, Planning, DPW, and Mayor's Office work tasks.	<p>City participated in the updated Onondaga County MJHMP; City revised its section and hazard mitigation alternatives.</p> <p>Letter provided to 35 Repetitive Loss Area (RLA) properties in January 2019 and June 2020.</p> <p>Provided FIRM mapping information to residential and commercial inquires (Engineering Dept.)</p>
C. of Syracuse-5 (CSY-6)	Create/ enhance/ maintain mutual aid agreements with neighboring communities.	All	<p>Problem: Hazards are not defined by municipal boundaries.</p> <p>Solution: Continue to coordinate on MJHMP; establish semi-annual hazard mitigation meetings between county, city and surrounding towns. Identify hazards and response actions that will benefit from multijurisdictional coordination.</p>	Increased coordination between Syracuse, the County and surrounding municipalities for hazard mitigation planning and hazard response will reduce risks and harm to property and people. Faster response and recovery will result.	Ongoing	Onondaga County, City of Syracuse, towns	Ongoing efforts as part of Engineering, Planning, DPW, Water Depts. and Mayor's Office work tasks.	<p>City participated in the updated Onondaga County MJHMP; City revised its section and hazard mitigation alternatives.</p>

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Hazard Mitigation Initiative Progress**

Project Number	Project Name	Hazard(s) to be Mitigated	Description of Problem and Solution	Estimated Benefits	Estimated Timeline	Lead Agency	Estimated Costs	2019 Progress
C. of Syracuse-6 (CSY-8)	Support/Participate in the Stream Team program	Flood, Severe storms	Problem: Debris and sediment can cause stream blockage resulting in flooding and damage, particularly at restriction areas such as bridges, culverts and narrow channels. Solution: The city continues to inspect streams regularly and after higher flow events. Continue to mobilize DPW forces to remove debris and blockages, particularly at bridges and culverts. Coordinate with Onondaga County and surrounding towns.	Reduction of flooding; reduction of risk to people and property; reduced damage to property and to city bridges and culverts.	Ongoing and as needed.	Syracuse DPW and Engineering, Onondaga County WEP	Ongoing efforts as part of Engineering, and DPW tasks; additional funding could be used after high impact storm events.	The City continues to remove storm and vegetative debris from city stream channels.
C. of Syracuse-7 (CSY- 12)	Investigate the feasibility of "daylighting" feeder streams to Onondaga Creek.	Flood, Severe storms	Problem: Channelized engineered streams in Syracuse have high velocity during larger storm events. Urban channels have lost capacity due to sedimentation from upstream sources. Closed channels and culverts have limited capacity and can back up at the entry point causing localized flooding. Solution: Investigate the feasibility of "daylighting" feeder streams to Onondaga Creek (e.g. Harbor Brook, Kimber Brook) to return these streams to a more natural condition, increasing their capacity particularly during high water and storm events. Implement feasible "daylighting" projects as funding becomes available. Identify specific areas stream reaches where daylighting, re-naturalization and flood storage can be added, including wetland development to reduce flooding, and reduce channel velocities.	Flood reduction; stream velocity reduction, aquatic habitat betterment	1-10 years; study phase first, design second, construction third phase.	Mayor's Office, Engineering, DPW, NYSDEC, USACE, Onondaga Environmental Institute (OEI)	Study and design costs \$50,000 to \$500,000; Construction costs \$100,000 to several \$ million.	Feasibility of daylighting City streams has not been studied. No funding identified for study or daylighting projects.
C. of Syracuse-8 (CSY- 13)	Repair/ rehabilitate deficient combined sewers and culverts to increase capacity; separate storm and sanitary sewers.	Flood, Severe storms	Problem: Limited sewer capacity (particularly in combined sewer systems) can result in surcharges, localized flooding and overflows to local streams. Water quality impacts to local streams. Repair deteriorated culverts to maintain capacity Solution: Repair deficient sewers replace sewers with greater capacity systems; continue to separate combined storm and sanitary sewers to reduce overflows.	Reduction in overflows, reductions in localized flooding; improved water quality due to reduced untreated sanitary discharges.	Ongoing/yearly	Mayor's Office, Engineering, DPW	\$500,000 + yearly	4200 LF of sewer main was lined within the City in 2019.
C. of Syracuse-9 (CSY- 15)	Conduct dredging/ cleaning of Onondaga Creek .	Flood, Severe storms	Problem: Ongoing sedimentation from upstream sources (e.g. Tully Mudboils) continues to reduce channel capacity and flood storage. Solution: Remove sediments in channel and vegetation overgrowth to increase flow capacity	Flood reduction, risk reduction; floodplain reduction (new study would be needed)	1-3 years	Mayor's Office, Engineering, DPW	\$16 Million per NYSDEC/OBG study	The City is a participating member of the Onondaga Creek Mudboils Technical Advisory Group (TAG). 2019 TAG Projects: - water diversion around RMA Mudboils - Mudboils mitigation Alternatives Analysis completed - Feasibility Study completion in 2020
C. of Syracuse-10 (CSY- 16)	Conduct repairs to the bank of Onondaga Creek.	Flood, Severe storms	Problem: Erosion and scour have increased potential damage to bridge abutments and culverts. Solution: Repair damaged channel sections; Remove invasive species, plant native species for stabilization.	Reduced risk to infrastructure (bridges, culverts, stability of bank)	1 season and multi-season projects	Engineering, DPW	\$10,000 to \$million	City is planning bank stabilization for Onondaga Creek between Fayette and Walton Streets in downtown Syracuse. Funds are in place, Project is in design phase with construction planned in 2021/22.
C. of Syracuse-11 (CSY- 18)	Conduct dredging/cleaning of Hopper Brook, Furnace Brook, Spring Brook and Cold Brook.	Flood, Severe storms	Problem: Ongoing sedimentation and vegetation overgrowth reduce channel capacity and increase risk of flooding. Solution: Remove sediments in channel and vegetation overgrowth to increase flow capacity	Flood reduction, risk reduction; floodplain reduction (new study would be needed)	1-3 years	Mayor's Office, Engineering, DPW	\$100,000 approx. per stream.	No sediment removal projects in 2019. Vegetation and debris removal conducted in 2019 for city streams.
C. of Syracuse-12 (CSY- 20)	Conduct regular cleaning of catch-basins	Flood, Severe storms	Problem: Blocked catch basin and storm sewer lines caused localized flooding. vehicle, pedestrian and property risks results Solution: Conduct regular cleaning of catch-basins throughout the city (approx. 11,300) to maintain stormwater management capacity. Conduct regular inspection and maintenance of catch basin ad storm sewer system; conduct TV inspections.	Reduction in personal risk, and property damage. Reduction in road closures.	Ongoing capability; additional funding can expand program	Mayor's Office, Engineering, DPW	\$100,000 per year to expand program	City DPW conducts city-wide sewer system cleaning. In 2020 DPW completed: - 10,007 catch basins cleaned - 743 catch basins repaired or replaced - 71 manholes repaired or replaced - 35,734 LF sewer video - Sewer cleaning of 95 miles by Jet-vac truck.
C. of Syracuse-13 (CSY- 22)	Remove/raise lowest abandoned bridge at Jefferson Street.	Flooding	Problem: Low chords of three downtown bridges are below the base flood elevation. Bridge removal or raising will reduce constriction and increase channel conveyance. Solution: LWRP study currently funded with focus on lowest bridge. The lowest bridge will be removed if it can be obtained from the private owner.	Reduced flood risk and potential flood damages.	Study in 2019; to be followed by construction project	Planning, Engineering	Study and construction: \$500,000 -\$750,000	Owner did not respond to acquisition inquiries by the City. Grant has also expired. This initiative will no longer be pursued.

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Project Number	Project Name	Hazard(s) to be Mitigated	Description of Problem and Solution	Estimated Benefits	Estimated Timeline	Lead Agency	Estimated Costs	2019 Progress
C. of Syracuse-14 (CSY- 24)	Support RL/SRL owner participation in mitigation activities.	Flood	Problem: Syracuse currently has 5 repetitive loss properties and one repetitive loss area along Meadowbrook. Solution: Participate in RL/SRL property owner outreach and education activities, provided by FEMA.	Provide greater awareness of safety measures to implement and available flood insurance programs.	Ongoing yearly outreach.	Engineering	Part of standard Engineering Dept. work tasks.	Letter sent to 35 property owners in January 2019 and June 2020 to the Respective Loss Area. See specific notes for 5 RLPs below.
CSY- 14A (CSY- 23)	411 Crawford Ave Syracuse, NY 13224	Flooding / Sewer surcharge	Problem: This property is uphill from and outside of the 0.2% annual chance flood zone. There is no evidence that Meadowbrook overflowed its banks on these loss dates. The property is located near the base of a slope and on a curve. Stormwater can enter the property from the street.	Provide greater awareness of safety measures to implement and available flood insurance programs.	Ongoing yearly outreach.	Engineering	Part of standard Engineering Dept. work tasks.	Letter sent to owner in 2019 and 2020 re risks, potential mitigation measures and flood insurance availability. Continue storm sewer cleaning, maintenance and periodic replacement.
C. of Syracuse-14B	704 Meadowbrook Dr. Syracuse, NY 13224	Flooding/ Sewer surcharge	Problem: There is no evidence that Meadowbrook overflowed its banks on the loss dates in 2007 or 2014. The problem appears to be due to the surcharging of the County trunk sewer.	Provide greater awareness of safety measures to implement and available flood insurance programs.	Ongoing yearly outreach.	Engineering	Part of standard Engineering Dept. work tasks.	City monitors Meadowbrook water levels and sewers. Lining of 3700 LF of sewer main in the Meadowbrook sewershed was completed in 2019.
C. of Syracuse-14C	1118 Meadowbrook Dr. Syracuse, NY 13224	Flooding/ Sewer surcharge	Problem: There is no evidence that Meadowbrook overflowed its banks on these loss dates. There is a significant incline at the rear of the house and the garage is located about 3 feet below the sidewalk and road. Stormwater on the road and to the rear can enter onto the property.	Provide greater awareness of safety measures to implement and available flood insurance programs.	Ongoing yearly outreach.	Engineering	Part of standard Engineering Dept. work tasks.	Letter sent to owner in 2019 and 2020 re risks, potential mitigation measures and flood insurance availability. Continue storm sewer cleaning, maintenance and periodic replacement.
C. of Syracuse-14D	1137 Meadowbrook Dr. Syracuse, NY 13224	Flooding /Sewer surcharge	Problem: 2007 losses were due to surface runoff into a low sewer vent and /or surface runoff from the incline behind the house. The house foundation has been repaired with site grading modifications.	Provide greater awareness of safety measures to implement and available flood insurance programs.	Ongoing yearly outreach.	Engineering	Part of standard Engineering Dept. work tasks.	Letter sent to owner in 2019 and 2020 re risks, potential mitigation measures and flood insurance availability. Continue storm sewer cleaning, maintenance and periodic replacement.
C. of Syracuse-14E	205 Rigi Avenue Syracuse 13206	Flooding/ Sewer surcharge	Problem: This property is not in a flood zone or near a flooding source. Solution: The property has an atypical connection to the sewer main. This plumbing connection to the city sewer main was corrected to address surcharge issues.	Provide greater awareness of safety measures to implement and available flood insurance programs.	Ongoing yearly outreach.	Engineering	Part of standard Engineering Dept. work tasks.	The area is within the Sedgewick/ Eastwood sewer/flooding study. (See CSY-2). Study expected to be completed in 2020 and will provide recommendations for this area.
C. of Syracuse-15 (Old CSY-24)	Critical facility Infrastructure Inventory	All Hazards	Problem: Incomplete inventories of critical facilities and infrastructure underestimate the amount of risk and potential economic impact that disasters can cause. Inventories also help to prioritize response during and post-disaster. Solution: Participate in regional, county and/or state level projects and programs to develop improved structure and facility inventories and hazard datasets to support enhanced risk assessment efforts. Such programs include developing a detailed inventory of critical facilities based upon FEMA's Comprehensive Data Management System (CDMS).	Incomplete inventories of critical facilities and infrastructure underestimate the amount of risk and potential economic impact that disasters can cause. Inventories also help to prioritize response during and post-disaster. Mitigation actions by owners will reduce risks and damages to critical facilities and infrastructure.	Ongoing/Yearly updates	Onondaga County, Syracuse Engineering and DPW.	Part of standard municipal tasks	City reviewed and updated the Critical Facility database as part of the 2019 MJHMP update. As part of this initiative, owners of critical facilities and infrastructure within the regulated floodplain will be notified in early 2020 by mail of the risk to their facilities from flood hazards; potential mitigation options will be provided in the letter.
C. of Syracuse-16	Develop storm response/debris management plan	Severe Storm	Problem: Response to severe storms can be uncoordinated, including storm debris management. Coordination among city Depts., Onondaga County and surrounding municipalities will increase efficiency and maximize FEMA reimbursement. Solution: In coordination with Onondaga County and surrounding municipalities, establish storm response plans (pre-storm and post storm plans). Establish a storm response team and communication channels.	Coordination will quicken response to severe storms and promote more efficient use of resources.	Yearly coordination meetings needed.	DPW, Parks, Engineering	Part of standard municipal tasks.	No progress to report.
C. of Syracuse-17	Street Tree Inventory	Severe Storm, Severe Winter Storm	Problem: Tree inventories are not updated frequently enough within the city. Trees are living dynamic structures that continually grow and change, requiring regular intervals of maintenance in order to reduce risk of failure. Tree inventories also provide a measure of tree assets within the city. Solution: Conduct cyclical inventory of 1/7" of the street tree population (about 5,200 trees annually) to identify highest risk trees to manage and to establish a cyclical pruning program to reduce risk and improve tree architecture.	Inventory will provide a summary of tree assets, risks, and help direct maintenance resources where needed.	Ongoing cyclical inventory needed.	Parks, DPW	Inventory (\$30,000 annually) Pruning (\$550,000 annually)	An inventory of 5000 trees was completed in Oct. 2019; grant funds were acquired for the inventory. Tree inventory will continue in 2020.